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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/971,851 11/17/97 HORNBACK III

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EXAMINER

TRAN, H

ART UNIT	PAPER NUMBER
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1764

DATE MAILED:

04/12/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**08/971,851**

Applicant(s)  
**Hornback, III et al**

Examiner  
**Hien Tran**

Group Art Unit  
**1764**



☒ Responsive to communication(s) filed on Feb 24, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 12-28 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 12-28 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 9

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Continued Prosecution Application*

1. The request filed on 2/24/00 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08/971,851 is acceptable and a CPA has been established. An action on the CPA follows.

### *Claim Rejections - 35 USC § 112*

2. Claims 12-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The phrase of "said at least one score-line extending **only** in a direction parallel to the flow of gas through said pollution control element" is nowhere disclosed in the specification. ✓

Applicant is required to cancel the new matter in the reply to this Office action.

3. Claims 12-28 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, line 6 --, said sheet material-- should be inserted before "having" for clarity; in line 9 "the flow of gas" lacks positive antecedent basis; in lines 8-9 it is unclear as to where it is ✓

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disclosed in the specification that "said at least one score-line extending **only** in a direction parallel to the flow of gas through said pollution control element". See claim 28 likewise.

In claim 13, line 2 it is unclear as to which surface is implied (note the top and bottom surfaces in claim 12).

In claim 22, it is unclear as to whether the surface is the same as to the surface set forth in claim 21.

In claim 26, it is unclear as to what structural limitation applicants are attempting to recite, whether the strips of "sheet material" in line 2 are the same as to the sheet material in line 1 and in claim 12, line 5.

In claim 28, line 11 it is unclear as to what is intended by "corresponds to the second radius of curvature of the pollution control element".

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 61-89916.

JP 61-89916 discloses a method of making a mounting article for a pollution control device comprising:

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providing a sheet material 1 having dimension suitable for use as a mounting for a pollution control element 2; and

providing at least one score line in a surface of the sheet material 1.

JP 61-89916 discloses that the sheet material is made from ceramic fiber which may be intumescent or non-intumescent.

With respect to claim 22, JP 61-89916 discloses provision of a plurality of score lines.

Instant claims 21-22 read on the method of JP 61-89916.

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

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8. Claims 12-19, 21-25, 27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 61-89916.

JP 61-89916 discloses a pollution control device and a method of making a mounting article comprising for a pollution control device:

providing a housing 3 containing a pollution control element 2 and said mounting article 1 disposed between the housing 3 and the pollution control element 2; wherein the mounting article 1 comprising a sheet material 1 having a major top and bottom surfaces, a thickness, a length, a width and having a plurality of score lines in the top and bottom surfaces of the sheet material 1.

JP 61-89916 further discloses that the score lines are disposed across the longer direction of the sheet material which appears to be the direction of the gas flowing (Fig. 2) and therefore meets the newly added limitation in the instant claim.

Even if it is not, then it would have been obvious to one having ordinary skill in the art to select an appropriate direction for the score lines, such as parallel to the flow of gas on the basis of its suitability for the intended use as a matter of obvious design choice, since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines and since applicants also admit on page 6, lines 28-31 that the score lines can extend in any direction: across the width or the length, i.e. parallel or perpendicular to the gas flow.

With respect to claims 14-15, 17, JP 61-89916 discloses that the score lines are disposed across the length of the sheet material 1 (see Fig. 1).

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With respect to claim 16, Fig. 1 of JP 61-89916 shows that the depth of the score line appears to be within the range of 5-90% of the thickness of the sheet material 1.

With respect to claim 19, JP 61-89916 discloses that the sheet material 1 is ceramic fiber.

With respect to claims 13, 18, 24-25, JP 61-89916 discloses that the sheet material has at least one score line in the both top and bottom surfaces.

With respect to claim 23, JP 2-61313 discloses that the monolith has round shape (Fig. 2).

With respect to claim 27, the score-line of JP 61-89916 appears to be U-shape (see the groove in Fig. 1).

9. Claims 16, 19-20, 23 are rejected under 35 U.S.C. § 103 as being unpatentable over JP 61-89916 as applied to claims 12-19, 21-25, 27 in view of JP 2-61313.

With respect to claims 16, 20, the depth of the score line of JP 61-89916 appears to be within the range of 5-90% of the thickness of the sheet material and therefore it meets the claims. In any event, it would have been obvious to one having ordinary skill in the art to select an appropriate depth for the score line on the basis of its suitability for the intended use as a matter of obvious design choice, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 19, JP 61-89916 discloses that the sheet material comprises ceramic fiber. JP 2-61313 discloses that the sheet material comprises inorganic fiber, vermiculite, etc., i.e. intumescent material. It would have been obvious to one having ordinary skill in the art to select an

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appropriate material, such as intumescent material, as evidenced by JP 2-61313, on the basis of its suitability for the intended use as a matter of obvious design choice, as such is conventional in the art and no cause for patentability here.

With respect to claim 23, JP 2-61313 discloses that the monolith has round shape (Fig. 2). It would have been obvious to one having ordinary skill in the art to select an appropriate shape for the monolith, such as the round shape as taught by JP 2-61313, since such shape is conventional in the art and no cause for patentability here.

10. Claims 26 and 28 are rejected under 35 U.S.C. § 103 as being unpatentable over JP 61-89916 as applied to claims 12-19, 21-25, 27 in view of Corn (5,332,609).

The apparatus of JP 61-89916 is substantially the same as that of the instant claim, but fails to disclose a second sheet material layer.

However, Corn discloses the conventionality of providing more than one layer for the mat.

It would have been obvious to one having ordinary skill in the art to provide a second layer in the sheet material of JP 61-89916 as taught by Corn so as to prevent from undesired cracking or buckling.

With respect to claim 28, Corn discloses the oval shape for the pollution control element. It would have been obvious to one having ordinary skill in the art to select an appropriate shape for the pollution control element, such as the oval shape taught by Corn, as such oval shape is conventional in the art and no cause for patentability here.



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11. Claims 12-25, 27 are rejected under 35 U.S.C. § 103 as being unpatentable over JP 2-61313 in view of JP 61-89916.

JP 2-61313 discloses a pollution control device and a method of making a mounting article comprising for a pollution control device:

providing a housing containing a pollution control element 1 and said mounting article 5 disposed between the housing and the pollution control element 1; wherein the mounting article 5 comprising a sheet material 5 having a major top and bottom surfaces, a thickness, a length, a width and having a plurality of score lines 11 in the top and bottom surfaces of the sheet material 5.

JP 61-89916 discloses that the score lines are disposed across the longer direction of the sheet material which appears to be the direction of the gas flowing (Fig. 2). JP 61-89916 also discloses that any shape, any number or any arrangement can be used for the score lines.

It would have been obvious to one having ordinary skill in the art to select an appropriate direction for the score lines, such as parallel to the flow of gas on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines and since applicants also admit on page 6, lines 28-31 that the score lines can extend in any direction: across the width or the length, i.e. parallel or perpendicular to the gas flow.

With respect to claims 14, 17-18, JP 61-89916 discloses that the score lines are disposed across the length or width of the sheet material.

With respect to claim 19, JP 2-61313 discloses that the sheet material is vermiculite.

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With respect to claim 13, JP 2-61313 discloses more than one score line.

With respect to claim 15, JP 61-89916 discloses that the score line extends across the length or width of the sheet material and therefore is perpendicular to the width and the length, respectively.

It would have been obvious to one having ordinary skill in the art to select an appropriate length and orientation for the score lines, such as the one taught by JP 61-89916 in the apparatus of JP 2-61313, on the basis of its suitability for the intended use as a matter of obvious design choice.

With respect to claims 16, 20, the depth of the score line of JP 61-89916 appears to be within the range of 5-90% of the thickness of the sheet material and therefore it meets the claims. In any event, it would have been obvious to one having ordinary skill in the art to select an appropriate depth for the score line on the basis of its suitability for the intended use as a matter of obvious design choice, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 23, JP 61-89916 discloses that both the top and the bottom surfaces of the sheet material have a plurality of score lines.

With respect to claim 24, JP 2-61313 discloses that the sheet material has at least one score line in the bottom surface facing the pollution control element 1 (see Fig. 2).

With respect to claim 27, the score-line of JP 2-61313 appears to be U-shape (see the groove in Fig. 2).

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12. Claims 26, 28 are rejected under 35 U.S.C. § 103 as being unpatentable over JP 2-61313 in view of JP 61-89916 as applied to claims 12-25, 27 in view of Corn (5,332,609).

The same comments with respect to Corn apply.

***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (703) 308-4253. The examiner can normally be reached on Monday-Thursday from 7:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode, can be reached on (703) 308-4311. The fax phone number for this Group is (703) 305-3599 (for Official papers after Final), (703) 305-5408 (for other Official papers) and (703) 305-6078 (for Unofficial papers).

When filing a FAX in Group 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

HT  
April 10, 2000

*Hien Tran*

**HIEN TRAN  
PRIMARY EXAMINER  
GROUP 1700**